

BEFORE THE OFFICE OF THE COMMISSIONER OF RAILROADS

STATE OF WISCONSIN

On the Commissioner's Own Motion for a Determination of the Adequacy of Warning Devices at the Grade Crossings of the Wisconsin Central Ltd. Tracks with USH 8 and STH 86 (Tomahawk Avenue) in the Town of Bradley, Lincoln County

9164-RX-609

FINDINGS OF FACT AND ORDER

On June 23, 2005, the Commissioner of Railroads directed the staff of the Office of the Commissioner of Railroads (OCR) to investigate the adequacy of warning devices under §195.28, Stats., at the grade crossing of the Wisconsin Central Ltd. (WCL) tracks with USH 8 in the Town of Bradley, Lincoln County (Crossing No. 855 242H / MP 137.80).

On October 28, 2005, the Commissioner of Railroads directed the staff of the Office of the Commissioner of Railroads (OCR) to also investigate the adequacy of warning devices under §195.28, Stats., at the grade crossing of the Wisconsin Central Ltd. (WCL) tracks with STH 86 (Tomahawk Avenue) in the Town of Bradley, Lincoln County (Crossing No. 392 937L / MP 132.55).

An OCR investigator inspected the crossings in June 2006. No hearing was held.

Findings of Fact

THE COMMISSIONER FINDS:

USH 8 Crossing No. 855 242H

USH 8 is 24' wide with 10'-wide shoulders (3' paved) in the vicinity of the crossing and intersects the railroad tracks at an angle of 85°. USH 8 carried an average daily traffic (ADT) of 4000 according to 2004 DOT records at a legal speed limit of 55 mph.

The WCL operates 10 train movements per day over the crossing at a timetable speed of 25 mph. The railroad operates 6 through movements and 4 switch movements each day. The crossing consists of one mainline track.

The exposure factor at this crossing is 40,000. The exposure factor equals the product of the number of trains per day and the number of highway vehicles per day, which yields a numerical value for the potential conflicts each day at the crossing.

One train-vehicle accident has occurred at this crossing since 1973. The accident occurred in 2001.

The Wisconsin Department of Transportation has produced a benefit-cost analysis for all at-

grade crossings in the state. Installing new cantilevered automatic flashing lights with gates and constant warning time circuitry at the USH 8 crossing has a net benefit of about \$567,000.

The crossing is presently protected with cantilevered 12" LED automatic flashing lights with constant warning time circuitry. The signals were installed in 1982 and the LED lamps and constant warning time circuitry were added in 2000. The existing warning devices are inadequate. The existing warning devices will be adequate until such time as the new warning devices are installed. In order to adequately protect public safety cantilevered 12" LED automatic flashing lights with gates and constant warning time circuitry are needed because of the exposure factor, highway speeds, and the projected net benefit. To the extent feasible the existing signals materials should be re-used.

STH 86 (Tomahawk Avenue) Crossing No. 392 937L

STH 86 (Tomahawk Avenue) is 30' wide between curbs in the vicinity of the crossing and intersects the railroad tracks at an angle of about 35° (left-hand forward). STH 86 (Tomahawk Avenue) carried an average daily traffic (ADT) of 4700 according to 2004 DOT records at a legal speed limit of 25 mph.

The WCL operates 6 train movements per day over the crossing at a timetable speed of 25 mph. The crossing consists of one mainline track.

At all crossings, except those with gates, a driver stopped 15' short of the near rail must be able to see far enough down the track, in both directions, to determine if sufficient time exists for moving their vehicle safely across the tracks to a point 15' past the far rail, prior to the arrival of a train. Required clearing sight distance along both directions of the track, from the stopped position of the vehicle, is dependent upon the maximum train speed and the acceleration characteristics of the "design" vehicle. The necessary clearing sight distance at the STH 86 (Tomahawk Avenue) crossing is about 560'. The available clearing sight distance is less than 560' in two quadrants due to the severe left-hand forward skew.

The exposure factor at this crossing is 28,200.

Two train-vehicle accidents have occurred at this crossing since 1973. The accidents occurred in 1988 and 1999.

Installing new automatic flashing lights with gates and constant warning time circuitry at the STH 86 (Tomahawk Avenue) crossing has a net benefit of about \$532,000.

The crossing is presently protected with mast-mounted 12" incandescent automatic flashing lights with constant warning time circuitry. The existing warning devices are inadequate. The existing warning devices will be adequate until such time as the new warning devices are installed. In order to adequately protect public safety 12" LED automatic flashing lights with gates and constant warning time circuitry are needed because of the exposure factor, the skewed angle, and the projected net benefit.

Constant warning time circuitry adjusts for train speed and causes the crossing signals to always operate for the same amount of time before the train reaches the crossing, regardless of train

speed. A motion detector simply detects the train operation, but does not adjust for train speed so that the amount of warning time varies based on train speed.

Light emitting diodes (LED) lamps replace incandescent bulbs. LEDs have higher conspicuity, a wider cone of vision, and longer life than incandescent lights. LEDs are especially useful on east-west roadways where the rising and setting sun may make the signals difficult to see.

Source of funding: The signal materials and installation shall be paid from OCR safety funds.

Conclusion on the Issue

THE COMMISSIONER CONCLUDES:

1. That in order to adequately protect and promote public safety, it is necessary to install and maintain cantilevered 12" LED automatic flashing lights with gates and constant warning time circuitry at the crossing of the tracks of the Wisconsin Central Ltd. with USH 8 in the Town of Bradley, Lincoln County.

2. That in order to adequately protect and promote public safety, it is necessary to install and maintain 12" LED automatic flashing lights with gates and constant warning time circuitry at the crossing of the tracks of the Wisconsin Central Ltd. with STH 86 (Tomahawk Avenue) in the Town of Bradley, Lincoln County.

Conclusion of Law

THE COMMISSIONER CONCLUDES:

That the jurisdiction of the Office of the Commissioner of Railroads under §195.28, Stats., extends to this matter. Accordingly, the Office enters an order consistent with the findings of fact.

Order

THE COMMISSIONER ORDERS:

1. That the **Wisconsin Central Ltd.** shall install and maintain cantilevered 12" LED automatic flashing lights with gates, and constant warning time circuitry with appropriate appurtenances in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads at the crossing of its tracks with **USH 8** at-grade in the Town of Bradley, Lincoln County by **December 31, 2008** (Crossing No. 855 242H / MP 137.80).

2. That the **Wisconsin Central Ltd.** shall install and maintain 12" LED automatic flashing lights with gates, and constant warning time circuitry with appropriate appurtenances in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads at the crossing of its tracks with **STH 86 (Tomahawk Avenue)** at-grade in the Town of Bradley, Lincoln County by **December 31, 2008** (Crossing No. 392 937L / MP 132.55).

3. That the **Wisconsin Central Ltd.** shall submit to the Office of the Commissioner of Railroads signal and circuit plans with the cost estimate of its proposed installation and upon completion of the signal project, a detailed statement of the actual cost to the Office and to the Wisconsin Department of Transportation.

4. That the signal installation work herein ordered shall not begin until the district office of the Wisconsin Department of Transportation informs the railroad that they may start such work and such start notice will not be issued until appropriate federal aid or other funding arrangements have been assured. The cost of the new project initiated before the start notice will not be reimbursed with public funds and shall be the responsibility of the railroad.

5. That to the extent feasible the **Wisconsin Central Ltd.** shall re-use the existing signal equipment.

6. That the **Wisconsin Central Ltd.** shall bear no part of the cost of the crossing signals installation, except for any cost assessed to the railroad pursuant to §195.60, Stats., for the investigation of this matter by the Office. The railroad shall not pass on those assessment costs either directly or indirectly.

7. That if the petitioner, railroad or any interested party objects to this order and requests a hearing within 20 days of the date of this order in writing, the Office will hold a public hearing.

8. That jurisdiction is retained.

Dated at Madison, Wisconsin, (August 3, 2006).

By the Office of the Commissioner of Railroads.

Rodney W. Kreunen
Commissioner of Railroads

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